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L'étude vise à évaluer l'efficacité d'un programme d'immersion française mis sur pied en 1969-1970 et destiné à des élèves anglophones de septième année. Dans ce but, les performances scolaires et les préjugés ethniques d'un échantillon d'élèves inscrits en 1970-1971 dans des classes d'immersion ont été comparés à ceux d'élèves suivant l'enseignement régulier en anglais avec cours de français langue seconde.

Au total, 223 élèves de six écoles de la région montréalaise se sont prêtés à l'enquête: 108 suivaient le cours d'immersion et 115 constituaient le groupe de contrôle. Deux batteries de tests ont été utilisées, l'une en mars et avril 1971, l'autre en juin 1971. Elles comprenaient des extraits du "Stanford achievement test", le Test de rendement en français et le Test de rendement en mathématiques de la CECM, le test de mathématiques Amoss, un test d'expression orale française, enfin une échelle sémantique et un questionnaire visant à déterminer les attitudes ethniques des élèves et leur perception des francophones.

Les résultats indiquent que les élèves du groupe d'immersion ont effectué des progrès importants en langue française et cela sans que leurs résultats en anglais et en mathématiques en soient affectés par rapport au groupe de contrôle. Bien que moins nets, les résultats quant aux attitudes ethniques indiquent certains changements chez les élèves des classes d'immersion quant à leur perception des francophones.

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REPORT

ON

THE EVALUATION OF THE GRADE SEVEN

FRENCH IMMERSION PROGRAMME

1970-1971

THE PROTESTANT SCHOOL BOARD OF GREATER MONTREAL

E D U Q 8270377

THE PROTESTANT SCHOOL BOARD OF GREATER MONTREAL

STUDENT PERSONNEL SERVICES
AND
CURRICULUM DEPARTMENT

GRADE-SEVEN 1970-71 FRENCH IMMERSION EVALUATION PROJECT

Introduction:

Our aim in connection with the research behind this report has been to evaluate the 1970-71 Grade Seven French Immersion Programme. To this end, the performance of a sample of students from this programme was compared to that of a sample of students from the traditional English with French as a Second Language programme on a battery of tests selected for this purpose. The following pages outline the methodology of our approach, the research results, and our interpretation of them.

Description of The Population:

The population from which our samples were obtained includes Grade seven students from the French Immersion programme and from the feeder schools attached to this programme. Immersion programmes were of two types and have been classified accordingly in this project. Those in which French only was selected as the medium of expression in the school include Cartierville, Elmgrove, and Royal Vale and have been designated the term "Experimental Group I". Those in which English was retained as the medium of expression in the school include Dorval Gardens, Nesbitt, and Riverview and have been designated the term "Experimental Group II". Students in the English with French as a Second Language programmes from the feeder schools corresponding to each of the above categories have been designated the terms "Control Group I" and "Control Group II" respectively. A further subdivision of students on the basis of sex yielded eight groups

which lend themselves to various types of classifications for comparative purposes.

Description and Results of Sampling Technique:

Candidates for this project were obtained through their school files. Students who were French speaking or who had an extensive background in French were excluded from consideration, as were students who showed evidence of organic or speech impairment. Also excluded were students for whom no IQ records were available in the school Kardex system. Of those that were available, the choice of the Hemmon-Nelson as the instrument of selection took precedence over that of the Otis. Next in order of preference came the Lorge-Thorndike followed by the WISC in cases in which no other IQ index had been recorded. This was done to preserve the order of the frequencies with which these different measures of IQ appeared in the files of the students such that the measure showing up with greatest frequency appears most often in the selection of the candidates.

A trial run of a random selection of each 10th student in each school yielded a total of 325 students with significant differences for mean IQ among the groups in which a marked thirteen point superiority (Experimental = 121, Control = 108) in favour of the Experimental group was obtained. This large difference was further aggravated by anomolies in the distributions of the IQ's of the Experimental and Control groups such that an IQ range from 110 to 130 was introduced as an additional factor of classification for the selection of candidates.

With these new parameters in mind, the results of a random sampling of this population are presented in Table I. No significant differences for group, sex, or interaction effects were obtained among the mean IQ's of the sample groups.

Tests Selected for the Battery:

The Language Usage, Sentence Sense, and Arithmetic Concepts of the Stanford Achievement Test were originally selected as measures of achievement in English and Mathematics. But since the ceiling of the Sentence Sense was too low and gave skewed distributions on the initial test session, it was dropped in favour of the Paragraph Meaning for retesting. On these tests, standard scores in terms of percentiles are reported where possible, and raw scores where these were not available. Alternate forms of the test were used for the first and second round of the testing.

The Test de Rendement en Français and the Test de Rendement en Mathématiques of the Commission des Ecoles Catholiques de Montréal were selected as measures of achievement in French and Mathematics. It was necessary to use the Grade 5 level for the Test de Rendement Français as a trial run revealed that the Grade 7 level was too difficult for the control students and had a demoralizing effect on their motivation to perform. The Test de Rendement en Mathématiques was added to yield an indication of the extent to which participation in the French Immersion programme could discriminate performance in mathematics between the Experimental and Control groups.

The Amoss, an index of ability for mathematics, standardized in terms of the methodology for constructing IQ tests, was administered at the time of retesting to check whether the first round differences in mathematics could be accounted for by group differences in mathematical ability.

The test on the French speaking skills consisted of reproducing on tape the oral expressions of the students in conversation with the examiner and while describing a story suggested by a series of pictures designed for this purpose. A different series of pictures was selected for each test session and the responses of the students were rated by specialists using a five-point scale on the following dimensions: comprehension in conversation, grammatical correctness, enunciation, rhythm and intonation, vocabulary, and fluency. The ratings of two Board specialists were then combined into a single score for each student on each dimension.

The rating on comprehension refers strictly to the understanding of the content of a conversation and was set up in terms of the following criteria for scoring purposes: (5) understands fully; (4) needs repetition of questions to understand; (3) needs rephrasing of questions to understand; (2) needs some translation into English to understand; (1) understands questions in English only.

The rating on Grammatical Correctness was set in terms of the following criteria: (5) no errors, effortless use of grammar or word order; (4) meaning not obscured with one or two errors; (3) frequent errors, meaning occasionally obscured; (2) definitely unsatisfactory usage, speech frequently obscured; (1) virtually no structure, speech very difficult to understand.

The rating on enunciation was set in terms of the following criteria: (5) relatively great muscular tension, proper voicing and devoicing; (4) less muscular tension; (3) understandable mispronunciation; (2) less understandable mispronunciation; (1) intensified, almost incomprehensible utterances.

The rating on rhythm and intonation was set in terms of the following criteria: (5) good final contours and wide pitch range, beats well paced; (4) less pitch variation; (3) occasional inappropriate rising final contours; (2) raising contours, uneven and uncertain pitch variation; (1) no final contours.

The rating on vocabulary was set in terms of the following criteria: (5) approximates that of a French-speaking person; (4) rare trouble, good on subjects within his experience; (3) inappropriate terms and/or roundabout language; (2) frequent use of wrong words, communication impaired; (1) misuse of words, limited vocabulary, difficult to understand.

The rating on fluency was set in terms of the following criteria: (5) approximates that of a French-speaking person; (4) tempo and rapidity of response slightly affected; (3) fluency visibly affected by interference from native tongue; (2) rapidity, tempo and length of utterances greatly affected; (1) fluency so far from normal as to make conversation impaired.

The Semantic Differential was used as the measure of attitudes which students expressed towards themselves and specific ethnic groups. The students were requested to rate the concepts French Canadians, English Canadians, European French, and Myself against eighteen bi-polar scales graduated along a seven-point system such that a rating of seven was assigned

to the most desirable end of the scale and a rating of one to the least desirable.

A questionnaire on a series of statements on French-Canadians prepared by the McGill University Faculty of Psycholinguistics was also administered to the students to provide an additional check on the extent to which student participation in a one-year French Immersion project might reflect changes in attitudes towards the French-Canadians. The students were requested to rate the extent to which they agreed or disagreed with each statement by indicating their choice on a graduated seven-point scale.

Testing:

Feb. '71 was the earliest date for which the first round of testing could be scheduled. Some of this testing was carried out in early March. All of the retesting took place in the first two weeks of June '71. Transportation facilities were arranged to use testing centres to reduce the amount of time involved in the four-hour testing programme set up for each student.

Testing conditions were not ideal for all groups. More favourable accomodations were set up for the second round of testing in cases in which initial test conditions were unsatisfactory. Some students missed some of the tests as they were unable to present themselves at the time of transportation to testing centres. Transportation conflicts reduced the amount of time available for administering all of the tests to some students. On the second round of testing some of the tape recordings were not sufficiently clear to permit reliable assessments of student

performance.

Test motivation was questionable on the part of some of the students in the control groups who seemed to resent being compared to the immersion students and especially so on the French tests. In some cases, students appeared to resent being examined under conditions in which they felt they had nothing personal to gain from the experience. In others, the claim was made that our selection procedures were anti-democratic and that students selected for the project were being discriminated against. In all cases brought to our attention, it was pointed out to the students that participation in this project was optional. In addition to this, the options available to them for dropping out of the project were explained in detail. All of the students who discussed with us their reticence to participate chose to remain in the project.

Methodology of Statistical Treatment:

The data on the cognitive skills were treated with a two-way analysis variance design using a fixed model with unequal numbers. The data from the attitudinal tests was processed through a one-way analysis of variance design as a preliminary assessment of the initial test results revealed minimal sex differences in this area of the testing programme.

Analysis and Interpretation of Results:

Some factors inherent to the conditions surrounding this project cast additional information in the light of which generalizations from the test data should proceed. Though the groups, experimental and

control, were equated for IQ they were not matched for motivation. It may well be that students who opted for French Immersion were also students better motivated to perform academically. A basic assumption underlying the selection of all students was that since all of them originated from the same feeder schools prior to enrollment in the immersion course, a random sample of students from each area should yield groups which are comparable from the socio-economic point of view. In addition to this, test conditions prevented the research team from obtaining scores on all of the students for all of the tests. In spite of these limitations, the results between the initial and final testing rounds indicate a marked degree of similarity.

With respect to the cognitive data, the English tests reveal no significant differences among the groups. The Sentence Sense was the only test on which significance was obtained and here only between the sexes. But this test was found to be too easy for the students and later excluded in favour of the Paragraph Meaning.

The Test de Rendement en Français revealed a large gap between the performance levels of the experimental and control groups and this as had been anticipated.

The Arithmetic Concepts yielded significant differences consistently in favour of the boys. The group differences, could be attributable to the difference in mathematical ability between Experimental Group I and the remaining groups as detected through the Amoss. The Test de Rendement en Mathématiques revealed the extent to which students were

able to apply their knowledge of French to the solution of mathematics problems. The ability of the control students to solve some of the problems in this context has been traced to the fact that some of the test questions use mathematical notations which can be understood with minimal language skills.

The most striking results were obtained on the French oral skills. The experimental groups consistently outscored the control groups and the girls consistently outscored the boys. The gap in achievement between the experimental and the control groups was most evident in the rating on comprehension. The majority of the immersion students displayed a total understanding of the content of their conversations with the examiners.

The results are not so clear-cut on the attitudinal data. Both groups appeared to view themselves as very much the same on the concept "Myself" except that the immersion students appear to look upon themselves as more successful than the control group. This could indicate that the immersion students are better achievers but it could also reflect positive test-taking attitudes of immersion students as a result of satisfaction with their course of studies. This was the only significant difference on the concept "Myself" that turned up on both rounds of testing and makes for only one of eighteen scales suggesting that the groups are comparable for the purposes we have in mind.

An interesting finding is reflected in the fact that more significant differences among the groups turned up in the second round of testing on all of the concepts in spite of the small difference in time between the two sessions. But these differences were generally on

different scales for each concept.

On the final testing session, six of the seven significant differences on the concept "French Canadians" and five of the seven significant differences on the statements on the French Canadians reveal that Experimental Group II and Control Group I share more favourable attitudes towards French Canadians than either of the other two groups. This may well mean that immersion students in Experimental Group I experienced more closeness to the French Canadians as a result of greater involvement with them and did not project upon them attitudes as favourable as did students who, though aspiring to some of their values through the education process, still view them as another type of entity.

The greater disparity among the results on the attitudinal data on the final testing round suggests that some changes in attitudes have resulted from the grade seven immersion programme but that the extent and the direction of these changes have not yet crystallized sufficiently for experimental detection.

The foregoing observations indicate that the students enrolled in the 1970-71 Grade Seven French Immersion programme attained considerable expertise in their acquisition of French Skills with apparently no harmful side effects to their performance in English and Mathematics.

Results from the attitudinal data are not as precise but do suggest that some changes in student attitudes towards French Canadians have resulted from participation in this programme.

EP/cb
July 1971.

Table I

Comparisons of Number of Students, Means and Standard Deviations of Kardex IQs obtained in January 1971 from samples of French Immersion students from French schools (Exp I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II).

		Experimental		Control		Combined
		I	II	I	II	
	N	29	25	27	32	113
Male	M	120.41	119.44	119.77	120.46	120.06
	SD	4.86	5.54	6.43	5.38	5.58
	N	27	27	28	28	110
Female	M	121.37	119.77	118.85	120.50	120.12
	SD	5.94	5.93	5.46	4.35	5.53
	N	56	52	55	60	223
Combined	M	120.87	119.61	119.30	120.48	120.09
	SD	5.43	5.75	5.97	4.93	5.56

Table II

Comparisons on the Language and Mathematics tests among French Immersion students from French schools (Exp I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the first round of testing (Feb. '71).

		Experimental		Control		F Ratio (Degrees of Freedom)		
		I	II	I	II	Group	Sex	Interaction
STANFORD								
Language Usage (0-38)	Male	21.39	21.72	21.50	20.48	1.18	0.13	0.26
	Female	22.00	22.30	20.88	20.73	(3,203)	(1,203)	(3,203)
	Combined	21.67	22.01	21.19	20.59			
Sentence Sense (0-18)	Male	14.39	13.08	13.30	13.56	1.69	4.40*[1]	0.10
	Female	15.04	14.16	14.22	14.11	(3,201)	(1,201)	(3,201)
	Combined	14.69	13.62	13.77	13.82			
Arithmetic Concepts (%iles)	Male	83.42	64.47	67.85	69.95	3.51*	12.43**	1.12
	Female	63.86	58.13	48.20	63.89	(3,155)	(1,155)	(3,155)
	Combined	74.61	61.50	58.03	67.08			
CECM								
Français (0-35)	Male	18.10	16.12	10.65	10.93	36.37**	6.37*	0.24
	Female	19.21	18.00	11.62	13.15	(3,202)	(1,202)	(3,202)
	Combined	18.60	17.06	11.15	11.96			
Arithmétique (0-35)	Male	19.12	18.40	15.10	14.32	7.71**	0.36	0.65
	Female	17.53	18.28	13.85	15.45	(3,184)	(1,184)	(3,184)
	Combined	18.30	18.34	14.45	14.84			

1 * = p significant beyond .05; ** = p significant beyond .01

Table II (Cont'd.)

		Experimental		Control				
		I	II	I	II	Group	Sex	Interaction
FRENCH ORAL SKILLS								
Comprehension (1-5)	Male	4.17	4.04	2.77	2.62	55.26**	6.29*	2.94*
	Female	4.37	4.16	2.72	3.39	(3,214)	(1,214)	(3,214)
	Combined	4.20	4.10	2.75	2.97			
Grammar (1-5)	Male	3.17	3.12	2.39	2.12	32.06**	13.96**	3.86*
	Female	3.33	3.29	2.48	2.87			
	Combined	3.25	3.21	2.43	2.48			
Enunciation (1-5)	Male	3.58	3.39	2.93	2.67	23.59**	13.75**	1.94
	Female	3.81	3.62	3.01	3.26			
	Combined	3.69	3.51	2.97	2.95			
Rhythm & Intention (1-5)	Male	3.59	3.29	2.74	2.58	24.57**	14.93**	2.06
	Female	3.74	3.55	2.87	3.23			
	Combined	3.63	3.43	2.80	2.88			
Vocabulary (1-5)	Male	3.41	3.56	2.37	2.01	40.71**	5.10*	2.25
	Female	3.61	3.59	2.40	2.71			
	Combined	3.50	3.57	2.39	2.34			
Fluency (1-5)	Male	3.53	3.27	2.48	2.03	37.92**	13.09**	3.18*
	Female	3.61	3.59	2.62	2.85			
	Combined	3.57	3.44	2.55	2.42			

Table III

Comparisons on the Language and Mathematics tests among French Immersion students from French schools (Exp I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the second round of testing (June '71).

		Experimental		Control		F Ratio (Degrees of Freedom)		
		I	II	I	II	Group	Sex	Interaction
STANFORD								
Language Usage (0-38)	Male	20.64	19.54	21.45	19.90	0.09	5.54*[1]	1.46
	Female	22.00	22.30	21.04	22.12	(3,189)	(1,189)	(3,189)
	Combined	21.32	20.98	21.23	20.88			
Paragraph Meaning (%iles)	Male	65.26	57.00	58.55	53.03	1.03	1.08	0.34
	Female	58.58	52.00	53.08	55.48	(3,173)	(1,173)	(3,173)
	Combined	62.06	54.40	55.42	54.18			
Arithmetic Concepts (%iles)	Male	80.12	62.20	62.90	54.62	4.00**	4.38	2.13
	Female	60.75	64.56	49.30	54.91	(3,187)	(1,187)	(3,187)
	Combined	70.63	63.40	55.79	54.75			
CECM								
Français (0-35)	Male	18.96	18.82	11.54	11.20	43.92**	11.08**	4.78**
	Female	20.83	18.96	11.80	16.80	(3,189)	(1,189)	(3,196)
	Combined	19.84	18.91	11.66	13.59			
Arithmétique (0-35)	Male	22.12	17.70	15.95	12.90	11.98**	1.16	1.92
	Female	18.11	18.08	14.73	14.16	(3,189)	(1,189)	(3,189)
	Combined	20.04	17.89	15.35	13.46			

[1] * = p significant beyond .05; ** = p significant beyond .01

Table III (Cont'd.)

		Experimental		Control		F Ratio (Degrees of Freedom)		
		I	II	I	II	Group	Sex	Interaction
AMOSS								
Mathematics (IQ)	Male	115.00	107.67	107.54	106.70	2.36	5.66*	0.30
	Female	107.44	104.28	104.76	102.00	(3,190)	(1,190)	(3,190)
	Combined	111.36	105.93	106.24	104.71			
FRENCH ORAL SKILLS								
Comprehension (1-5)	Male	4.68	4.36	2.85	2.93	68.78**	9.90**	1.69
	Female	4.79	4.76	3.00	3.65	(3,188)	(1,188)	(3,188)
	Combined	4.74	4.58	2.92	3.28			
Grammar (1-5)	Male	3.46	3.21	2.35	2.28	30.66**	13.13**	2.20
	Female	3.57	3.42	2.63	3.00			
	Combined	3.51	3.32	2.48	2.63			
Enunciation (1-5)	Male	3.62	3.34	2.87	2.60	20.49**	14.27**	3.19*
	Female	3.77	3.63	2.95	3.36			
	Combined	3.69	3.50	2.91	2.97			
Rhythm & Intonation (1-5)	Male	3.77	3.67	2.81	2.60	31.93**	10.49**	3.88*
	Female	3.77	3.90	2.93	3.38			
	Combined	3.77	3.79	2.86	2.98			
Vocabulary (1-5)	Male	3.70	3.56	2.33	2.17	39.06**	10.16**	1.33
	Female	3.83	3.84	2.63	2.90			
	Combined	3.76	3.71	2.47	2.53			
Fluency (1-5)	Male	3.63	3.39	2.39	2.10	32.38**	8.77**	1.72
	Female	3.70	3.69	2.61	2.86			
	Combined	3.66	3.55	2.50	2.47			

Table IV

Comparisons of group means on the concept "Myself" among French Immersion students from French schools (Exp I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the first round of testing (February '71).

	Experimental		Control		df	F Ratio
	1	2	3	4		
strong...weak[1]	4.86	5.30	5.03	5.26	3,186	1.25
friendly...unfriendly	6.04	6.24	6.42	5.90	3,185	2.44
intelligent...not intelligent	5.62	5.64	5.30	5.66	3,186	.87
industrious...lazy	4.30	4.66	4.70	4.46	3,186	.51
happy...sad	6.18	6.40	6.02	5.76	3,186	2.53
affectionate...not affectionate	5.82	5.82	6.17	5.60	3,186	1.69
proud...humble	3.18	2.86	3.40	3.02	3,186	.61
good looking...ugly	5.38	5.20	4.85	5.12	3,186	1.17
pleasant...unpleasant	5.64	5.81	5.71	5.54	3,184	.55
kind...mean	5.75	5.86	6.20	5.56	3,185	2.88*
calm...nervous	4.24	4.44	4.45	4.78	3,186	.76
interesting...boring	4.92	5.20	4.87	5.24	3,186	1.09
clean...dirty	5.94	5.88	6.15	6.04	3,185	.44
serious...funny	3.36	3.42	3.67	4.02	3,186	1.43
talkative...not talkative	5.44	5.06	5.45	5.04	3,186	.71
unselfish...selfish	4.92	5.16	5.20	5.16	3,186	.37
lenient...severe	4.86	4.18	5.31	4.28	3,185	5.91**
successful...unsuccessful	5.74	5.90	5.27	5.26	3,186	3.15*

1. The first term of each pair of adjectives has a rating of (7); the second, a rating of (1).
2. * = p significant beyond .05; ** = p significant beyond .01

Table V

Comparisons of group means on the concept "Myself" among French Immersion students from French schools (Exp I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the second round of testing (June '71).

	Experimental		Control		df	F Ratio
	1	2	3	4		
strong...weak[1]	5.36	5.60	5.21	5.27	3,179	.74
friendly...unfriendly	6.12	6.26	5.98	5.67	3,179	2.52
intelligent...not intelligent	5.54	5.62	5.31	5.65	3,179	.67
industrious...lazy	3.84	3.02	3.33	3.22	3,179	1.97
happy...sad	4.16	4.98	4.67	4.78	3,179	2.68 *
affectionate...not affectionate	5.80	5.93	5 71	5.37	3,179	1.58
proud...humble	2.72	2.64	3.05	3.41	3,179	1.88
good looking...ugly	5.46	5.67	5.02	5.33	3,179	2.01
pleasant...unpleasant	5.66	5.98	5.64	5.49	3,179	1.57
kind...mean	5.96	6.07	6.00	5.86	3,179	.33
calm...nervous	4.50	4.57	4.81	5.12	3,179	1.17
interesting...boring	5.18	5.45	4.95	5.41	3,179	1.52
clean...dirty	5.76	6.10	5.79	6.08	3,179	1.07
serious...funny	3.24	4.05	4.10	4.00	3,179	2.56
talkative...not talkative	4.96	5.40	5.21	4.86	3,179	.80
unselfish...selfish	4.72	4.45	4.10	5.29	3,179	2.06
lenient...severe	4.80	5.12	4.50	4.55	3,179	1.48
successful...unsuccessful	5.96	5.86	5.33	5.67	3,179	2.84 *

1. The first term of each pair of adjectives has a rating of (7); the second, a rating of (1).
2. * = p significant beyond .05; ** = p significant beyond .01

Table VI

Comparisons of group means on the concept "English Canadians" among French Immersion students from French schools (Exp I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the first round of testing (February '71).

	Experimental		Control		df	F Ratio
	1	2	3	4		
strong...weak[1]	5.12	5.20	5.23	5.48	3,187	.89
friendly...unfriendly	5.16	5.22	5.75	5.84	3,187	3.82**
intelligent...not intelligent	5.36	5.64	5.55	5.55	3,187	.49
industrious...lazy	4.72	5.32	5.18	5.28	3,187	2.03
happy...sad	5.16	5.30	5.27	5.14	3,186	.18
affectionate...not affectionate	4.86	5.40	5.25	5.46	3,186	2.35
proud...humble	2.60	2.30	2.45	2.74	3,187	.75
good looking...ugly	5.10	5.18	4.92	5.15	3,186	.36
pleasant...unpleasant	5.20	5.22	5.17	5.50	3,187	.80
kind...mean	5.08	5.10	5.32	5.24	3,186	.43
calm...nervous	4.48	4.40	4.45	4.39	3,187	.05
interesting...boring	4.88	5.12	5.15	5.05	3,187	.49
clean...dirty	5.06	4.98	5.00	5.17	3,187	.24
serious...funny	3.98	4.16	3.97	4.15	3,187	.24
talkative...not talkative	5.20	5.26	4.95	5.05	3,186	.48
unselfish...selfish	4.10	4.44	4.70	4.26	3,187	1.36
lenient...severe	4.34	4.16	4.48	4.14	3,187	.70
successful...unsuccessful	5.68	5.76	5.28	5.27	3,187	2.12

1. The first term of each pair of adjectives has a rating of (7); the second, a rating of (1).
2. * = p significant beyond .05; ** = p significant beyond .01

Table VII

Comparisons of group means on the concept "English Canadians" among French Immersion students from French schools (Exp I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the second round of testing (June '71).

	Experimental		Control		df	F Ratio
	1	2	3	4		
strong...weak[1]	4.68	4.17	5.31	5.35	3,179	2.87 *
friendly...unfriendly	5.30	5.14	5.50	5.45	3,179	.61
intelligent...not intelligent	5.54	5.52	5.55	5.69	3,179	.20
industrious...lazy	4.62	5.55	5.29	5.37	3,179	3.84 **
happy...sad	5.34	5.64	5.29	5.29	3,179	.76
affectionate...not affectionate	5.00	5.60	5.62	5.39	3,179	2.08
proud...humble	2.68	2.52	2.69	2.80	3,179	.24
good looking...ugly	5.16	5.50	5.12	5.45	3,179	1.07
pleasant...unpleasant	5.12	5.40	5.48	5.31	3,179	.70
kind...mean	4.90	5.36	5.57	5.27	3,179	2.28
calm...nervous	4.28	4.88	4.83	4.57	3,179	2.34
interesting...boring	4.66	5.45	4.98	5.47	3,179	3.71 *
clean...dirty	4.94	5.33	5.33	5.31	3,179	.88
serious...funny	3.84	4.64	4.24	4.08	3,179	2.15
talkative...not talkative	4.94	5.24	5.40	5.02	3,179	.97
unselfish...selfish	3.76	4.81	4.12	4.82	3,179	4.99 **
lenient...severe	4.02	3.77	3.88	4.51	3,179	2.67 *
successful...unsuccessful	5.32	5.57	5.43	5.14	3,179	.86

1. The first term of each pair of adjectives has a rating of (7); the second, a rating of (1).
2. * = p significant beyond .05; ** = p significant beyond .01

Table VIII

Comparisons of group means on the concept "French Canadians" among French Immersion students from French schools (Exp I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the first round of testing (February '71).

	Experimental		Control		df	F Ratio
	1	2	3	4		
strong...weak[1]	5.15	5.18	4.93	4.32	3,186	4.35**
friendly...unfriendly	4.40	4.60	4.75	3.70	3,187	3.59*
intelligent...not intelligent	4.52	4.86	4.78	4.34	3,187	1.23
industrious...lazy	4.36	5.06	4.85	4.22	3,187	3.63*
happy...sad	5.04	5.04	5.17	4.88	3,187	.35
affectionate...not affectionate	4.52	4.74	4.80	4.58	3,187	.34
proud...humble	2.24	2.54	2.47	2.62	3,187	.56
good looking...ugly	4.32	4.66	4.45	4.27	3,187	.76
pleasant...unpleasant	4.44	4.98	4.60	4.17	3,187	2.29
kind...mean	4.70	4.56	4.67	3.94	3,187	3.00*
calm...nervous	3.98	4.18	4.22	4.00	3,187	.39
interesting...boring	5.20	4.52	4.70	4.26	3,186	3.18*
clean...dirty	4.44	4.36	4.85	4.33	3,187	1.28
serious...funny	3.82	4.42	4.30	4.39	3,187	1.86
talkative...not talkative	5.44	5.56	5.22	5.08	3,185	.98
unselfish...selfish	3.76	4.36	4.33	3.95	3,187	1.65
lenient...severe	3.76	3.64	3.88	3.53	3,187	.54
successful...unsuccessful	4.20	4.60	4.70	4.39	3,187	.92

1. The first term of each pair of adjectives has a rating of (7); the second, a rating of (1).
2. * = p significant beyond .05; ** = p significant beyond .01

Table IX

Comparisons of group means on the concept "French Canadians" among French Immersion students from French schools (Exp I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the second round of testing (June '71).

	Experimental		Control		df	F Ratio
	1	2	3	4		
strong...weak[1]	4.48	4.74	4.60	4.16	3,179	.89
friendly...unfriendly	4.34	4.71	4.62	3.98	3,179	1.57
intelligent...not intelligent	4.06	4.86	4.55	4.35	3,179	2.09
industrious...lazy	4.14	5.05	4.76	3.90	3,179	4.77 **
happy...sad	4.92	5.26	4.67	4.55	3,179	2.09
affectionate...not affectionate	4.44	4.86	4.88	4.51	3,179	.92
proud...humble	3.40	3.05	3.07	3.10	3,179	.41
good looking...ugly	4.12	4.55	4.69	4.10	3,179	1.63
pleasant...unpleasant	4.52	4.86	4.52	3.94	3,179	2.81 *
kind...mean	4.38	4.67	4.79	3.88	3,179	3.13 *
calm...nervous	4.04	4.60	4.14	3.78	3,179	2.38
interesting...boring	4.92	4.81	5.26	3.78	3,179	7.94 **
clean...dirty	3.64	4.45	4.90	4.10	3,179	5.39 **
serious...funny	3.84	4.36	4.67	4.18	3,179	2.77 *
talkative...not talkative	5.26	5.33	4.57	5.02	3,179	1.73
unselfish...selfish	3.60	4.40	4.14	3.57	3,179	3.38 *
lenient...severe	3.86	3.67	3.93	3.65	3,179	.38
successful...unsuccessful	4.10	4.69	4.50	4.29	3,179	1.13

1. The first term of each pair of adjectives has a rating of (7); the second, a rating of (1).
2. * = p significant beyond .05; ** = p significant beyond .01

Table X

Comparisons of group means on the concept "European French" among French Immersion students from French schools (Exp I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the **first** round of testing (February '71).

	Experimental		Control		df	F Ratio
	1	2	3	4		
strong...weak[1]	5.00	4.68	4.62	4.61	3,186	.79
friendly...unfriendly	5.58	5.10	5.00	5.14	3,186	1.45
intelligent...not intelligent	5.22	5.14	4.83	4.95	3,186	.88
industrious...lazy	5.08	4.86	4.77	5.32	3,185	1.27
happy...sad	5.38	5.32	5.10	5.10	3,186	.56
affectionate...not affectionate	5.08	5.38	5.10	4.71	3,186	2.09
proud...humble	2.63	2.82	3.18	3.24	3,185	1.39
good looking...ugly	5.20	4.96	5.05	4.80	3,185	.92
pleasant...unpleasant	5.24	5.28	4.85	5.00	3,186	1.31
kind...mean	5.34	5.18	5.08	4.90	3,186	1.14
calm...nervous	4.36	4.10	4.49	4.25	3,186	.55
interesting...boring	5.28	5.30	5.11	5.24	3,185	.15
clean...dirty	4.82	5.08	4.84	4.86	3,185	.43
serious...funny	4.34	4.96	4.36	4.49	3,186	2.42
talkative...not talkative	4.88	5.14	4.64	4.84	3,186	.86
unselfish...selfish	4.42	4.56	4.67	4.53	3,186	.22
lenient...severe	4.06	3.62	3.97	4.02	3,185	1.23
successful...unsuccessful	5.08	5.12	4.85	5.10	3,186	.38

1. The first term of each pair of adjectives has a rating of (7); the second, a rating of (1).
2. * = p significant beyond .05; ** = p significant beyond .01

Table XI

Comparisons of group means on the concept "European French" among French Immersion students from French schools (Exp I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the second round of testing (June '71).

	Experimental		Control		df	F Ratio
	1	2	3	4		
I strong...weak	4.34	5.05	4.64	4.14	3,179	3.10 *
friendly...unfriendly	5.26	5.21	5.21	4.53	3,179	3.05 *
intelligent...not intelligent	5.06	4.76	4.67	4.65	3,179	.94
industrious...lazy	4.50	4.76	4.98	4.80	3,179	.19
happy...sad	5.32	5.21	4.95	4.71	3,179	2.00
affectionate...not affectionate	5.14	5.43	5.14	4.82	3,179	1.64
proud...humble	3.14	3.38	3.26	3.55	3,179	.57
good looking...ugly	5.04	4.74	4.90	4.59	3,179	1.12
pleasant...unpleasant	5.08	5.07	5.21	4.73	3,179	1.23
kind...mean	5.18	5.19	5.12	4.69	3,179	1.93
calm...nervous	4.24	4.64	4.31	4.39	3,179	.66
interesting...boring	5.22	5.14	5.24	4.45	3,179	3.23 *
clean...dirty	4.90	4.86	5.10	4.61	3,179	.96
serious...funny	4.00	4.62	4.50	4.22	3,179	2.21
talkative...not talkative	5.18	4.98	5.05	5.14	3,179	.22
unselfish...selfish	4.54	4.62	4.29	4.22	3,179	.96
lenient...severe	4.12	3.64	4.21	3.82	3,179	2.17
successful...unsuccessful	5.34	5.10	4.93	4.37	3,179	4.26 **

1. The first term of each pair of adjectives has a rating of (7); the second, a rating of (1).
2. * = p significant beyond .05; ** = p significant beyond .01

Table XII

Comparisons on the statements of the Questionnaire on French Canadians among French Immersion students from French schools (Exp. I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the first round of testing (Feb. '71).

Statements	Experimental		Control		df	F Ratio
	I	II	I	II		
1. FC's[1] contribute to the richness of our society.	4.40	4.74	4.51	4.24	3,186	.73
2. FC's have produced outstanding artists and writers.	4.74	4.80	5.23	4.75	3,186	.82
3. The more I have to do with FC's, the less I want to be able to speak their language	2.00	1.82	1.56	2.37	3,186	2.10
4. FC's are not very democratic in politics and philosophy.	3.60	2.88	3.37	3.78	3,183	2.24
5. FC's religious faith is a positive force in this modern world.	3.74	3.42	2.51	3.02	3,186	3.67*[2]
6. The loss of the FC influence in Quebec would be no great loss.	1.90	2.36	2.26	2.51	3,186	1.00
7. FC's have little reason to be proud of their race and traditions.	2.86	3.30	3.23	4.39	3,186	4.91**
8. FC's more likely to look upon family members as source of income.	3.34	2.88	3.03	3.80	3,186	2.97*
9. FC's are very dependable in their work.	4.12	4.56	4.23	3.94	3,185	1.17
10. Our children have much of value to learn by associating with FC playmates.	5.42	6.00	5.83	5.49	3,187	1.40

1. The abbreviation "FC's" designates the term "French Canadians".
2. * = p significant beyond .05; ** = p significant beyond .01.

Table XII (Cont'd.)

Statements	Experimental		Control		df	F Ratio
	I	II	I	II		
11. We can learn better ways of cooking, serving food & entertaining from the FC's	4.60	4.16	4.50	3.80	3,187	1.67
12. FC's are generous and hospitable to strangers.	3.88	4.24	4.33	3.61	3,186	1,87
13. There is no reason for us to make a great effort to meet FC's.	2.76	3.04	3.15	3.82	3,185	2.22
14. We should try to force the FC's to become like us in their habits.	2.20	2.38	2.52	2.76	3,187	.89
15. I would be quite willing to work for a French employer.	6.02	5.72	5.20	4.86	3,185	3.79**
16. Social-recreational clubs would be less enjoyable if both Fr. & Eng. belonged.	2.38	2.20	2.77	3.38	3,185	3.07*
17. French could be important to understand the French and their way of life.	4.64	4.54	4.98	4.25	3,187	.83
18. French could be important in getting a good job.	6.84	6.72	6.70	6.53	3,187	.99
19. French could be important in helping me to befriend the French more easily.	5.56	5.50	5.73	5.69	3,187	.16
20. French could be important because I need it to finish high school.	6.02	5.68	6.00	6.06	3,187	.56
21. The educational objectives of Canada will be best achieved by having Fr. & Eng. children together in the same schools.	6.02	5.44	5.78	5.24	3,187	2.31

Table XIII

Comparisons on the statements of the Questionnaire on French Canadians among French Immersion students from French schools (Exp. I), French Immersion students from English schools (Exp II), and students from the corresponding areas of feeder schools (Control I and II) on the second round of testing (June '71).

Statements	Experimental		Control		df	F Ratio
	I	II	I	II		
1. FC's[1] contribute to the richness of our society.	4.28	4.62	4.50	4.06	3,179	.76
2. FC's have produced outstanding artists and writers.	5.22	5.00	4.98	4.71	3,179	.66
3. The more I have to do with FC's, the less I want to be able to speak their language	2.20	2.00	2.14	3.14	3,179	3.65*
4. FC's are not very democratic in politics and philosophy.	4.02	2.98	2.86	3.92	3,179	4.71**
5. FC's religious faith is a positive force in this modern world.	3.88	3.21	3.57	3.55	3,179	.98
6. The loss of the FC influence in Quebec would be no great loss.	2.24	2.12	1.79	2.63	3,179	2.01
7. FC's have little reason to be proud of their race and traditions.	3.50	2.98	2.81	3.90	3,179	2.41
8. FC's more likely to look upon family members as source of income.	4.56	3.52	2.86	4.04	3,179	8.62**
9. FC's are very dependable in their work.	3.74	4.83	4.38	4.16	3,179	3.12*
10. Our children have much of value to learn by associating with FC playmates.	5.20	6.12	5.67	4.78	3,179	5.10**

1. The abbreviation "FC's" designates the term "French Canadians".
2. * = p significant beyond .05; ** = p significant beyond .01.

Table XIII (Cont'd.)

Statements	Experimental		Control		df	F Ratio
	I	II	I	II		
11. We can learn better ways of cooking, serving food & entertaining from the FC's	5.04	4.67	4.26	3.98	3,179	2.63*
12. FC's are generous and hospitable to strangers.	4.12	4.60	4.45	3.65	3,179	2.65*
13. There is no reason for us to make a great effort to meet FC's.	2.94	2.88	3.31	3.78	3,179	2.08
14. We should try to force the FC's to become like us in their habits.	2.60	2.88	2.50	3.06	3,179	.86
15. I would be quite willing to work for a French employer.	5.74	5.95	5.45	5.04	3,179	2.27
16. Social-recreational clubs would be less enjoyable if both Fr. & Eng. belonged.	2.32	2.76	2.74	3.41	3,179	2.47
17. French could be important to understand the French and their way of life.	4.70	5.55	4.55	4.53	3,179	2.23
18. French could be important in getting a good job.	6.42	6.64	6.33	6.00	3,179	1.71
19. French could be important in helping me to befriend the French more easily.	6.18	6.02	5.67	5.71	3,179	1.07
20. French could be important because I need it to finish high school.	6.36	5.90	6.33	6.31	3,179	1.17
21. The educational objectives of Canada will be best achieved by having Fr. & Eng. children together in the same schools.	5.72	5.60	5.12	5.14	3,179	1.38